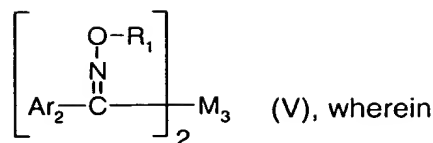
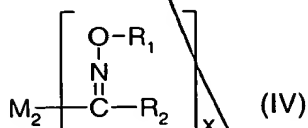
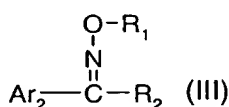
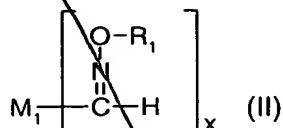
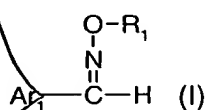


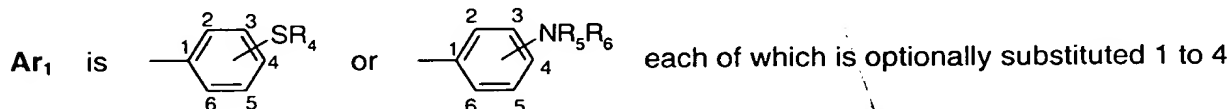
Patent Claims

1. Compounds of the formulae I, II, III, IV and V



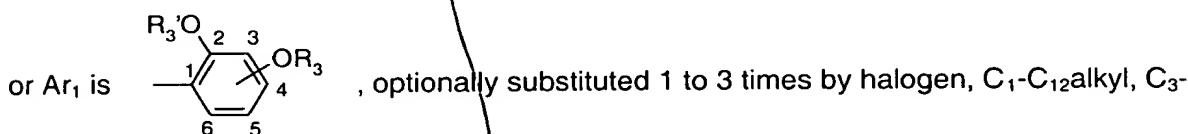
R₁ is C₄-C₉cycloalkanoyl, or C₁-C₁₂alkanoyl which is unsubstituted or substituted by one or more halogen, phenyl or CN; or R₁ is C₄-C₆alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R₁ is benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, halogen, CN, OR₃, SR₄ or NR₅R₆; or R₁ is C₂-C₆alkoxycarbonyl, benzyloxycarbonyl; or phenoxycarbonyl which is unsubstituted or substituted by one or more C₁-C₆alkyl or halogen;

R₂ is phenyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, phenyl, halogen, OR₃, SR₄ or NR₅R₆; or R₂ is C₁-C₂₀alkyl or C₂-C₂₀alkyl optionally interrupted by one or more -O- and/or optionally substituted by one or more halogen, OH, OR₃, phenyl, or phenyl substituted by OR₃, SR₄ or NR₅R₆; or R₂ is C₃-C₈cycloalkyl, C₂-C₂₀alkanoyl; or benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, phenyl, OR₃, SR₄ or NR₅R₆; or R₂ is C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or R₂ is phenoxycarbonyl which is unsubstituted or substituted by C₁-C₆alkyl, halogen, phenyl, OR₃, SR₄ or NR₅R₆; or R₂ is -CONR₅R₆, CN;



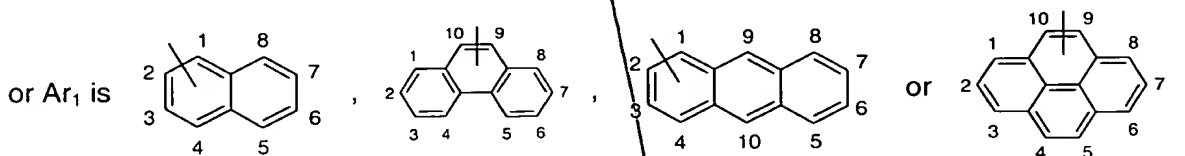
times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, benzyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring; provided that

- (i) if SR_4 is 2- $SC(CH_3)_3$, R_1 is not benzoyl;
- (ii) if SR_4 is 2- SCH_3 or 4- SCH_3 , R_1 is not 2-iodobenzoyl or 4-methoxybenzoyl;
- (iii) NR_5R_6 is not 4- $N(CH_3)_2$ or 2-NHCO-phenyl;
- (iv) if NR_5R_6 is 2-NH₂, 2-NHCOCH₃, 4-NHCOCH₃, 2-NHCOOCH₃, R_1 is not acetyl;
- (v) if NR_5R_6 is 4-NHCO-phenyl, R_1 is not benzoyl; and
- (vi) if NR_5R_6 is 4- $N(CH_2CH_3)_2$, R_1 is not 3,5-bis(1,1-dimethylethyl)-4-hydroxybenzoyl;



C₈cycloalkyl, benzyl, OR₃, SOR₄ or SO₂R₄, wherein the substituents OR₃ and/or OR₃' optionally form a 6-membered ring via the radicals R₃ and/or R₃' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring; provided that

- (vii) if Ar_1 is 2,4-dimethoxyphenyl, R_1 is not acetyl or benzoyl;
- (viii) if Ar_1 is 3,5-dibromo-2,4-dimethoxyphenyl, R_1 is not chloroacetyl; and
- (ix) if Ar_1 is 2,5-dimethoxyphenyl, 2-acetyloxy-3-methoxyphenyl, 2,4,5-trimethoxyphenyl, 2,6-diacetoxy-4-methylphenyl or 2,6-diacetoxy-4-acetoxymethylphenyl, R_1 is not acetyl;



each of which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl; or each of which is substituted by phenyl or by phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring; provided that

(x) Ar₁ is not 1-naphthyl, 2-naphthyl, 2-methoxy-1-naphthyl, 4-methoxy-1-naphthyl, 2-hydroxy-1-naphthyl, 4-hydroxy-1-naphthyl, 1,4-diacetyloxy-2-naphthyl, 1,4,5,8-tetramethoxy-2-naphthyl, 9-phenanthryl, 9-anthryl; and

(xi) if Ar₁ is 10-(4-chlorophenylthio)-9-anthryl, R₁ is not pivaloyl;

or Ar₁ is benzoyl, naphthalenecarbonyl, phenanthrenecarbonyl, anthracenecarbonyl or pyrenecarbonyl, each of which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, phenyl, phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups, phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ and NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that

(xii) if Ar₁ is benzoyl, R₁ is not acetyl, benzoyl nor 4-methylbenzoyl;

(xiii) if Ar₁ is 4-benzoyloxybenzoyl or 4-chloromethylbenzoyl, R₁ is not benzoyl;

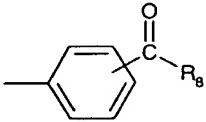
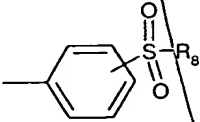
(xiv) if Ar₁ is 4-methylbenzoyl, 4-bromobenzoyl or 2,4-dimethylbenzoyl, R₁ is not acetyl;

or Ar₁ is 3,4,5-trimethoxyphenyl, or phenoxyphenyl;

or Ar₁ is biphenyl, optionally substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₄-C₉-cycloalkanoyl, -(CO)OR₃, -(CO)NR₅R₆, -(CO)R₈, OR₃, SR₄ and/or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, -(CO)R₈, OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals C₁-C₁₂alkyl, R₃, R₄, R₅, R₈ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

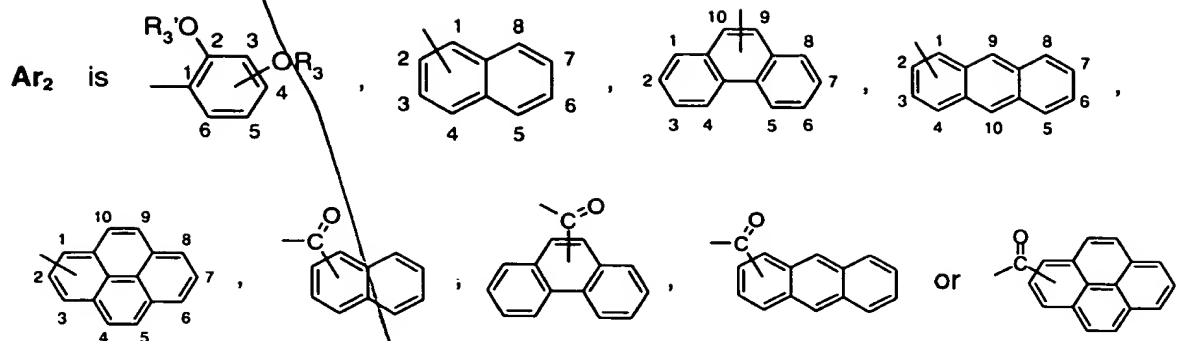
provided that

(xv) if Ar₁ is 2-biphenyl, R₁ is not benzoyl;

or Ar₁ is , or , both optionally substituted 1 to 4 times

by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, benzyl, OR₃, SR₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R₈;

or Ar₁ is thienyl or 1-methyl-2-pyrrolyl; provided that R₁ is acetyl;



each of which is unsubstituted or substituted 1 to 9 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl, phenyl; phenyl which is substituted by one or more OR_3 , SR_4 or NR_5R_6 ; or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl; C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; phenoxycarbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 , wherein the substituents OR_3 , SR_4 or NR_5R_6 optionally form 5- or 6-membered rings via the radicals R_3 , R_4 , R_5 and/or R_6 with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

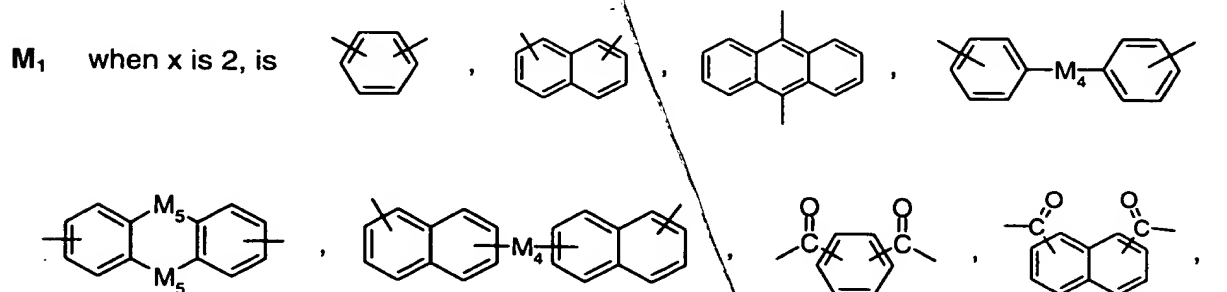
provided that

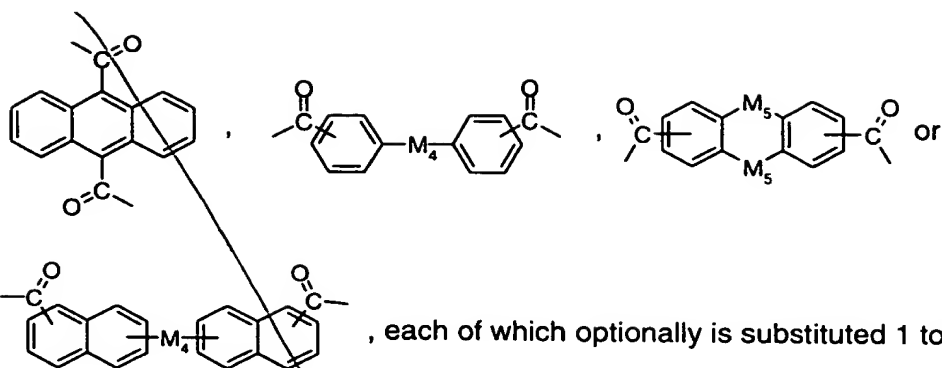
(xvi) if Ar_2 is 1-naphthyl, 2-naphthyl or 1-hydroxy-2-naphthyl, R_2 is not methyl, ethyl, n-propyl, butyl, phenyl or CN;

(xvii) if Ar_2 is 2-hydroxy-1-naphthyl, 2-acetoxy-1-naphthyl, 3-phenanthryl, 9-phenanthryl or 9-anthryl R_2 is not methyl; and

(xviii) if Ar_2 is 6-methoxy-2-naphthyl, R_1 is not $(CH_3)_3CCO$ nor 4-chlorobenzoyl;

x is 2 or 3;



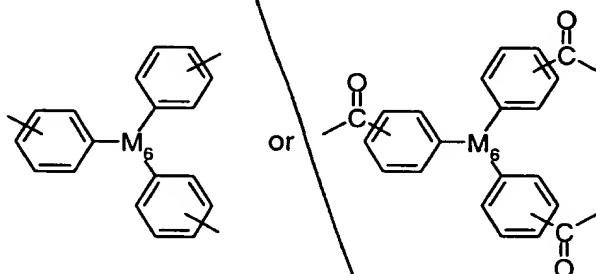


each of which optionally is substituted 1 to 8 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆;

provided that

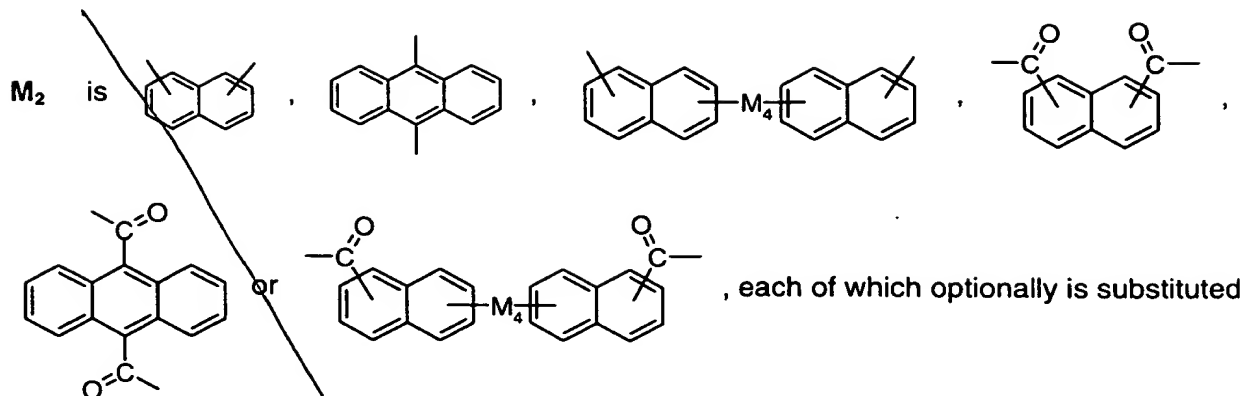
- (xix) M₁ is not 1,3-phenylene, 1,4-phenylene, 1-acetoxy-2-methoxy-4,6-phenylene or 1-methoxy-2-hydroxy-3,5-phenylene;

M₁, when x is 3, is

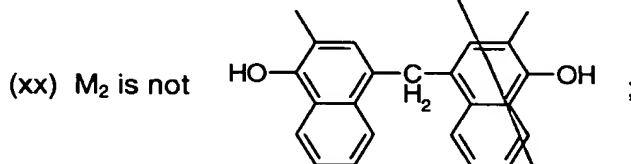


, each of which optionally

is substituted 1 to 12 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆;



1 to 8 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 ; or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl; C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 ; provided that

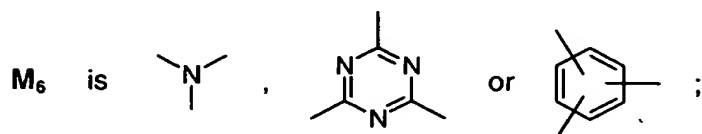


M_3 is C_1 - C_{12} alkylene, cyclohexylene, phenylene, $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$, $-(CO)O-(CH_2CH_2O)_n-(CO)-$ or $-(CO)-(C_2-C_{12}alkylene)-(CO)-$;

n is 1-20;

M_4 is a direct bond, -O-, -S-, -SS-, $-NR_3-$, $-(CO)-$, C_1 - C_{12} alkylene, cyclohexylene, phenylene, naphthylene, C_2 - C_{12} alkylenedioxy, C_2 - C_{12} alkylenedisulfanyl, $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$, $-(CO)O-(CH_2CH_2O)_n-(CO)-$ or $-(CO)-(C_2-C_{12}alkylene)-(CO)-$; or M_4 is C_4 - C_{12} alkylene or C_4 - C_{12} alkylenedioxy, each of which is optionally interrupted by 1 to 5 -O-, -S- and/or $-NR_3-$;

M_5 is a direct bond, $-CH_2-$, -O-, -S-, -SS-, $-NR_3-$ or $-(CO)-$;



M₇ is -O-, -S-, -SS- or -NR₃-; or M₇ is -O(CO)-(C₂-C₁₂-alkylene)-(CO)O-, -NR₃(CO)-(C₂-C₁₂-alkylene)-(CO)NR₃- or C₂-C₁₂alkylenedioxy-, each of which optionally is interrupted by 1 to 5 -O-, -S- and/or -NR₃-;

R₃ is hydrogen or C₁-C₂₀alkyl; or R₃ is C₂-C₈alkyl which is substituted by -OH, -SH, -CN, C₃-C₆alkenoxy, -OCH₂CH₂CN, -OCH₂CH₂(CO)O(C₁-C₄alkyl), -O(CO)-C₁-C₄alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C₁-C₄alkyl); or R₃ is C₂-C₁₂alkyl which is interrupted by one or more -O-; or R₃ is -(CH₂CH₂O)_{n+1}H, -(CH₂CH₂O)_n(CO)-C₁-C₈alkyl, C₁-C₈alkanoyl, C₃-C₁₂alkenyl, C₃-C₆alkenoyl, C₃-C₈cycloalkyl; or R₃ is benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, halogen, -OH or C₁-C₄alkoxy; or R₃ is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, -OH, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, or -(CO)R₇; or R₃ is phenyl-C₁-C₃alkyl, or Si(C₁-C₆alkyl)_r(phenyl)_{3-r};

r is 0, 1, 2 or 3;

R₃' is C₁-C₂₀alkyl; C₂-C₈alkyl which is substituted by -OH, -SH, -CN, C₃-C₆alkenoxy, -OCH₂CH₂CN, -OCH₂CH₂(CO)O(C₁-C₄alkyl), -O(CO)-C₁-C₄alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C₁-C₄alkyl); or R₃' is C₂-C₁₂alkyl which is interrupted by one or more -O-; or R₃' is -(CH₂CH₂O)_{n+1}H, -(CH₂CH₂O)_n(CO)-C₁-C₈alkyl, C₂-C₈alkanoyl, C₃-C₁₂alkenyl, C₃-C₆alkenoyl, C₃-C₈cycloalkyl; or R₃' is benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, halogen, -OH or C₁-C₄alkoxy; or R₃' is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, -OH, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, or -(CO)R₇; or R₃ is phenyl-C₁-C₃alkyl, or Si(C₁-C₆alkyl)_r(phenyl)_{3-r};

R₄ is hydrogen, C₁-C₂₀alkyl, C₃-C₁₂alkenyl, C₃-C₈cycloalkyl, phenyl-C₁-C₃alkyl; C₂-C₈alkyl which is substituted by -OH, -SH, -CN, C₃-C₆alkenoxy, -OCH₂CH₂CN, -OCH₂CH₂(CO)O(C₁-C₄alkyl), -O(CO)-C₁-C₄alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C₁-C₄alkyl); or R₄ is C₂-C₁₂alkyl which is interrupted by one or more -O- or -S-; or R₄ is -(CH₂CH₂O)_{n+1}H, -(CH₂CH₂O)_n(CO)-C₁-C₈alkyl, C₂-C₈alkanoyl, benzoyl, C₃-C₁₂alkenyl, C₃-C₆alkenoyl; or R₄ is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, phenyl-C₁-C₃alkyloxy, phenoxy, C₁-C₁₂alkylsulfanyl, phenylsulfanyl, -N(C₁-C₁₂alkyl)₂, diphenylamino, -(CO)R₇, -(CO)OR₇ or (CO)N(R₇)₂;

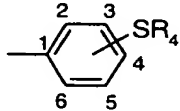
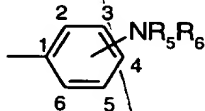
R₅ and R₆ independently of each other are hydrogen, C₁-C₂₀alkyl, C₂-C₄hydroxyalkyl, C₂-C₁₀alkoxyalkyl, C₃-C₅alkenyl, C₃-C₈cycloalkyl, phenyl-C₁-C₃alkyl, C₂-C₈alkanoyl, C₃-C₁₂alkenoyl, benzoyl; or R₅ and R₆ are phenyl or naphthyl each of which is unsubstituted or substituted by C₁-C₁₂alkyl, C₁-C₁₂alkoxy or -(CO)R₇; or R₅ and R₆ together are C₂-C₆alkylene optionally interrupted by -O- or -NR₃- and/or optionally substituted by hydroxyl, C₁-C₄alkoxy, C₂-C₄alkanoyloxy or benzoyloxy; and

R_7 is hydrogen, C_1 - C_{20} alkyl; C_2 - C_8 alkyl which is substituted by halogen, phenyl, -OH, -SH, -CN, C_3 - C_6 alkenoxy, $-OCH_2CH_2CN$, $-OCH_2CH_2(CO)O(C_1-C_4alkyl)$, $-O(CO)-C_1-C_4alkyl$, $-O(CO)-phenyl$, $-(CO)OH$ or $-(CO)O(C_1-C_4alkyl)$; or R_7 is C_2 - C_{12} alkyl which is interrupted by one or more -O-; or R_7 is $-(CH_2CH_2O)_{n+1}H$, $-(CH_2CH_2O)_n(CO)-C_1-C_8alkyl$, C_3 - C_{12} alkenyl, C_3 - C_8 cycloalkyl; or is phenyl optionally substituted by one or more halogen, -OH, C_1 - C_{12} alkyl, C_1 - C_{12} alkoxy, phenoxy, C_1 - C_{12} alkylsulfanyl, phenylsulfanyl, $-N(C_1-C_{12}alkyl)_2$ or diphenylamino;

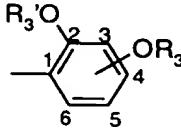
R_8 is C_1 - C_{12} alkyl optionally substituted by one or more halogen, phenyl, CN, -OH, -SH, C_1 - C_4 alkoxy, $-(CO)OH$ or $-(CO)O(C_1-C_4alkyl)$; or R_8 is C_3 - C_6 alkenyl; or phenyl optionally substituted by one or more C_1 - C_6 alkyl, halogen, CN, OR_3 , SR_4 or NR_5R_6 .

2. Compounds of the formulae I and II according to the claim 1, wherein

R_1 is C_2 - C_6 alkoxycarbonyl or benzyloxycarbonyl; C_1 - C_{12} alkanoyl which is unsubstituted or substituted by one or more halogen or phenyl; or R_1 is C_4 - C_6 alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl or halogen;

Ar_1 is  or , each of which optionally substituted 1 to 4

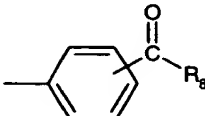
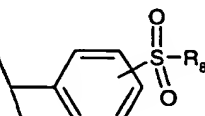
times by halogen, C_1 - C_{12} alkyl, OR_3 , SR_4 or NR_5R_6 , wherein the substituents OR_3 , SR_4 or NR_5R_6 optionally form 5- or 6-membered rings via the radicals R_3 , R_4 , R_5 and/or R_6 with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar_1 is , optionally substituted 1 to 3 times by halogen, C_1 - C_{12} alkyl, OR_3 ,


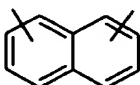
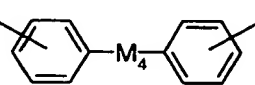
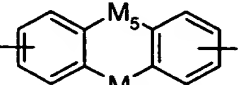
wherein the substituents OR_3 and/or OR_3' optionally form a 6-membered ring via the radicals R_3 and/or R_3' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

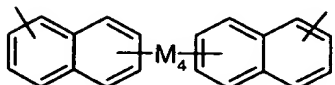
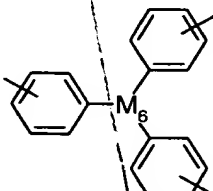
or Ar_1 is naphthyl, which is unsubstituted or substituted 1 to 7 times by halogen, C_1 - C_{12} alkyl, OR_3 , SR_4 or NR_5R_6 , wherein the substituents OR_3 , SR_4 or NR_5R_6 optionally form 5- or 6-membered rings via the radicals R_3 , R_4 , R_5 and/or R_6 with further substituents on the fused aromatic ring or with one of the carbon atoms of the naphthyl ring;

or Ar₁ is biphenyl, optionally substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, -(CO)R₈, OR₃, SR₄ or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals C₁-C₁₂alkyl, R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar₁ is  or , both optionally substituted 1 to 4 times by

halogen, C₁-C₁₂alkyl, OR₃, SR₄, SO₂R₄, or NR₅R₆ wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with R₈;

M₁ is , , , ,

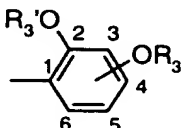
 or  each of which optionally is substituted

1 to 8 times by halogen, C₁-C₁₂alkyl, phenyl, OR₃, SR₄ or NR₅R₆.

3. compounds of the formula I or II according to claim 1, wherein

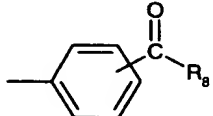
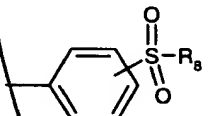
R₁ is C₁-C₁₂alkanoyl, benzoyl or C₂-C₆alkoxycarbonyl;

Ar₁ is R₄S-phenyl or NR₅R₆-phenyl, each of which is optionally substituted by C₁-C₈alkyl,

OR₃, or SR₄; or Ar₁ is , optionally substituted by OR₃; or Ar₁ is 1-naphthyl

or 2-naphthyl each of which optionally is substituted by OR₃, SR₄ or NR₅R₆; or Ar₁ is 3,4,5-trimethoxyphenyl, or phenoxyphenyl; or Ar₁ is biphenyl, optionally substituted by C₁-C₁₂alkyl, OR₃ and/or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, OR₃, SR₄ or NR₅R₆ option-

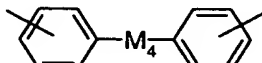
ally form 5- or 6-membered rings via the radicals C_1 - C_{12} alkyl, R_3 , R_4 , R_5 , and/or R_6 with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar_1 is , or , both optionally substituted by OR_3 or

SR_4 wherein the substituents OR_3 or SR_4 optionally form 5- or 6-membered rings via the radicals R_3 and/or with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R_8 ;

or Ar_1 is thienyl or 1-methyl-2-pyrrolyl; provided that R_1 is acetyl;

x is 2;

M_1 is , which optionally is substituted by OR_3 ;

M_4 is a direct bond, -O-, -S-, -SS-, or C_2 - C_{12} alkylenedioxy;

R_3 is C_1 - C_8 alkyl, phenyl or phenyl- C_1 - C_3 alkyl;

R_3' is C_1 - C_8 alkyl, C_3 - C_{12} alkenyl or phenyl- C_1 - C_3 alkyl;

R_4 is C_1 - C_{20} alkyl, phenyl- C_1 - C_3 alkyl, benzoyl; or is phenyl or naphthyl, both of which are unsubstituted or substituted by C_1 - C_{12} alkyl, phenyl- C_1 - C_3 alkyloxy, $-(CO)R_7$ or $-(CO)OR_7$;

R_5 and R_6 independently of each other are hydrogen, phenyl- C_1 - C_3 alkyl, C_2 - C_8 alkanoyl, or phenyl;

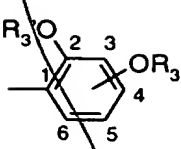
R_7 is C_1 - C_{20} alkyl or phenyl;

R_8 is phenyl optionally substituted by OR_3 .

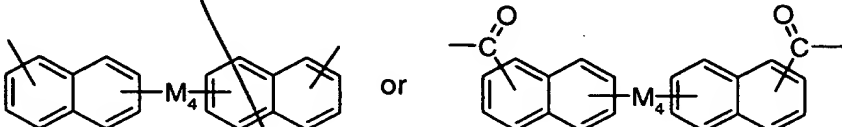
4. Compounds of the formula III, IV or V according to the claim 1, wherein

R_1 is C_2 - C_8 alkoxycarbonyl or benzyloxycarbonyl; C_1 - C_{12} alkanoyl which is unsubstituted or substituted by one or more halogen or phenyl; or R_1 is C_4 - C_6 alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R_1 is benzoyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl or halogen;

R_2 is phenyl which is unsubstituted or substituted by one or more C_1 - C_6 alkyl, phenyl, halogen, OR_3 , SR_4 or NR_5R_6 ; or R_2 is C_1 - C_{20} alkyl, optionally interrupted by one or more -O- and/or optionally substituted by one or more halogen, OH, OR_3 , phenyl or phenyl substituted by OR_3 , SR_4 or NR_5R_6 ;

Ar₂ is , naphthyl or naphthoyl, each of which is unsubstituted or substituted

1 to 9 times by halogen, C₁-C₁₂alkyl, phenyl, OR₃, SR₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings via the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the naphthyl ring;

M₂ is , each of which

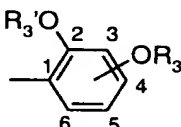
optionally is substituted 1 to 8 times by halogen, C₁-C₁₂alkyl, phenyl, OR₃, SR₄ or NR₅R₆; and

M₃ is C₁-C₁₂alkylene, or phenylene.

5. Compounds of the formula III according to claim 1, wherein

R₁ is C₁-C₆alkanoyl or benzoyl;

R₂ is C₁-C₂₀alkyl or C₂-C₂₀alkyl;

Ar₂ is , naphthyl or naphthoyl, each of which is unsubstituted or substituted

by OR₃, or SR₄;

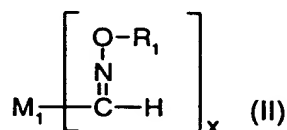
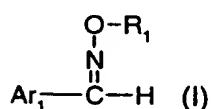
R₃ and **R₃'** are C₁-C₂₀alkyl; and

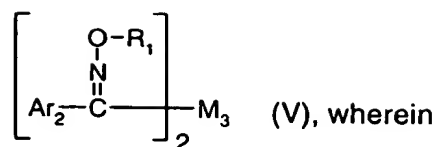
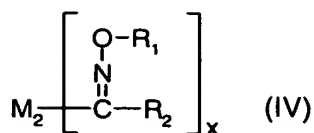
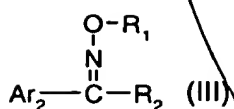
R₄ is phenyl.

6. A photopolymerizable composition comprising

(a) at least one ethylenically unsaturated photopolymerizable compound and

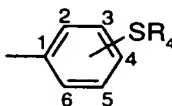
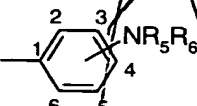
(b) as photoinitiator, at least one compound of the formula I, II, III, IV and/or V



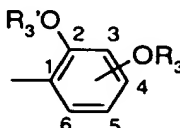


R₁ is C₄-C₉cycloalkanoyl, or C₁-C₁₂alkanoyl which is unsubstituted or substituted by one or more halogen, phenyl or CN; or R₁ is C₄-C₆alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R₁ is benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, halogen, CN, OR₃, SR₄ or NR₅R₆; or R₁ is C₂-C₆alkoxycarbonyl, benzyloxycarbonyl; or phenoxycarbonyl which is unsubstituted or substituted by one or more C₁-C₆alkyl or halogen;

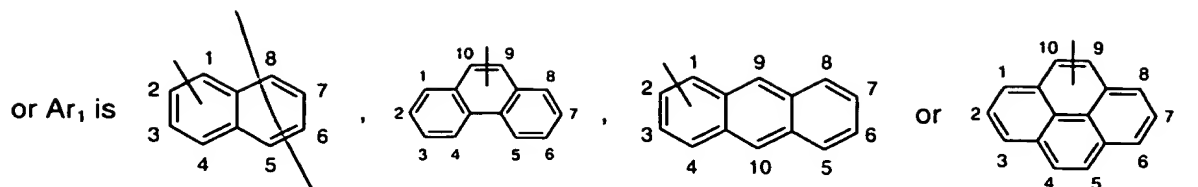
R₂ is phenyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, phenyl, halogen, OR₃, SR₄ or NR₅R₆; or R₂ is C₁-C₂₀alkyl or C₂-C₂₀alkyl optionally interrupted by one or more -O- and/or optionally substituted by one or more halogen, OH, OR₃, phenyl, or phenyl substituted by OR₃, SR₄ or NR₅R₆; or R₂ is C₃-C₈cycloalkyl, C₂-C₂₀alkanoyl; or benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, phenyl, OR₃, SR₄ or NR₅R₆; or R₂ is C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or R₂ is phenoxycarbonyl which is unsubstituted or substituted by C₁-C₆alkyl, halogen, phenyl, OR₃, SR₄ or NR₅R₆; or R₂ is -CONR₅R₆, CN;

Ar₁ is  or  each of which is optionally substituted 1 to 4

times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, benzyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar₁ is , optionally substituted 1 to 3 times by halogen, C₁-C₁₂alkyl, C₃-

C₈cycloalkyl, benzyl, OR₃, SOR₄ or SO₂R₄, wherein the substituents OR₃ and/or OR₃' optionally form a 6-membered ring *via* the radicals R₃ and/or R₃' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

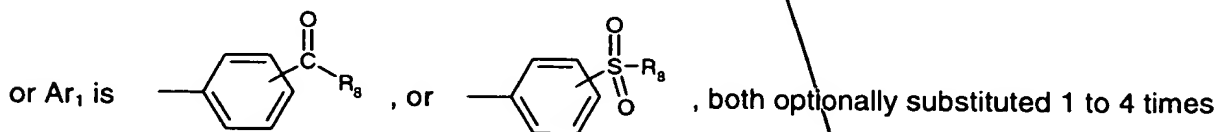


each of which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl; or each of which is substituted by phenyl or by phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

or Ar₁ is benzoyl, naphthalenecarbonyl, phenanthrenecarbonyl, anthracenecarbonyl or pyrenecarbonyl, each of which is unsubstituted or substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, phenyl, phenyl which is substituted by one or more OR₃, SR₄ or NR₅R₆; or each of which is substituted by benzyl, benzoyl, C₂-C₁₂alkanoyl; C₂-C₁₂alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups, phenoxycarbonyl, OR₃, SR₄, SOR₄, SO₂R₄ or NR₅R₆, wherein the substituents OR₃, SR₄ and NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅ and/or R₆ with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that if Ar₁ is 4-benzoyloxybenzoyl, R₁ is not benzoyl;

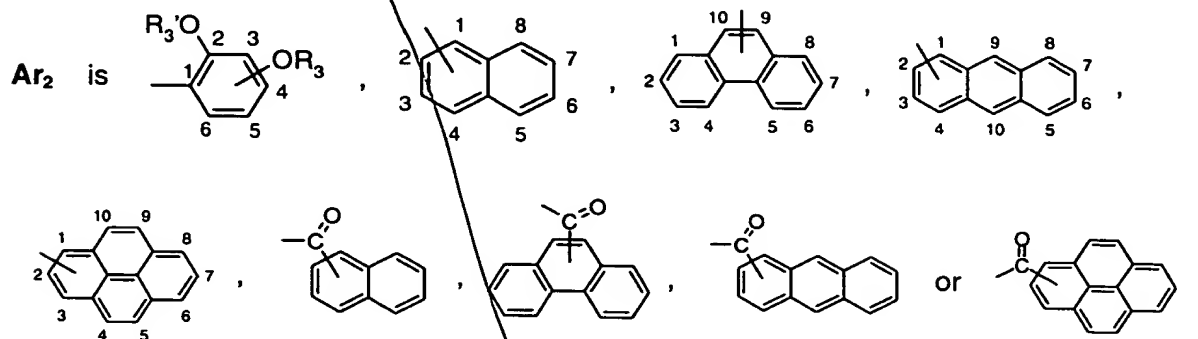
or Ar₁ is biphenyl, optionally substituted 1 to 9 times by halogen, C₁-C₁₂alkyl, C₄-C₉-cycloalkanoyl, -(CO)OR₃, -(CO)NR₅R₆, -(CO)R₈, OR₃, SR₄ and/or NR₅R₆ wherein the substituents C₁-C₁₂alkyl, -(CO)R₈, OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals C₁-C₁₂alkyl, R₃, R₄, R₅, R₈ and/or R₆ with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;



by halogen, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, benzyl, OR₃, SR₄ or NR₅R₆, wherein the substituents OR₃, SR₄ or NR₅R₆ optionally form 5- or 6-membered rings *via* the radicals R₃, R₄, R₅

and/or R_6 with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R_6 ;

or Ar_1 is 3,4,5-trimethoxyphenyl, or phenoxyphenyl; or Ar_1 is thienyl or 1-methyl-2-pyrrolyl; provided that R_1 is acetyl;

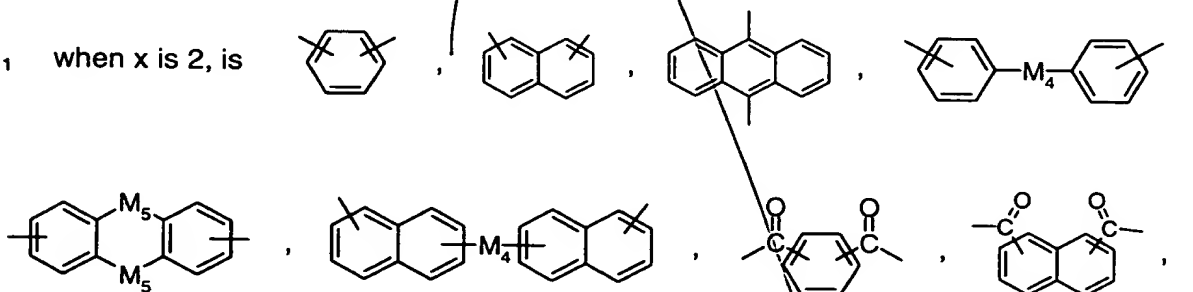


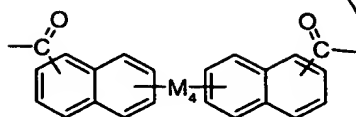
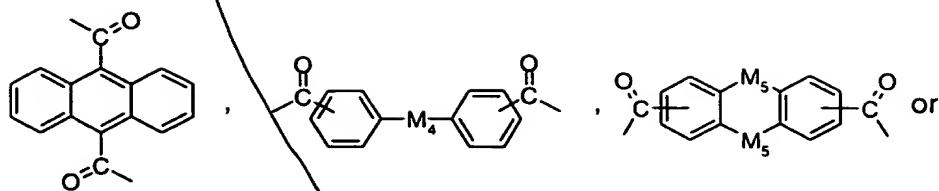
each of which is unsubstituted or substituted 1 to 9 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl, phenyl; phenyl which is substituted by one or more OR_3 , SR_4 or NR_5R_6 ; or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl; C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; phenoxy carbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 , wherein the substituents OR_3 , SR_4 or NR_5R_6 optionally form 5- or 6-membered rings via the radicals R_3 , R_4 , R_5 and/or R_6 with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that if Ar_2 is 1-naphthyl or 2-naphthyl, R_2 is not methyl or phenyl;

x is 2 or 3;

M_1 when x is 2, is



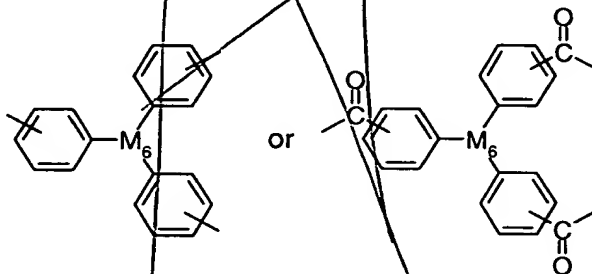


, each of which optionally is substituted 1 to 8 times by halogen,

C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 ; or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl; C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 ;

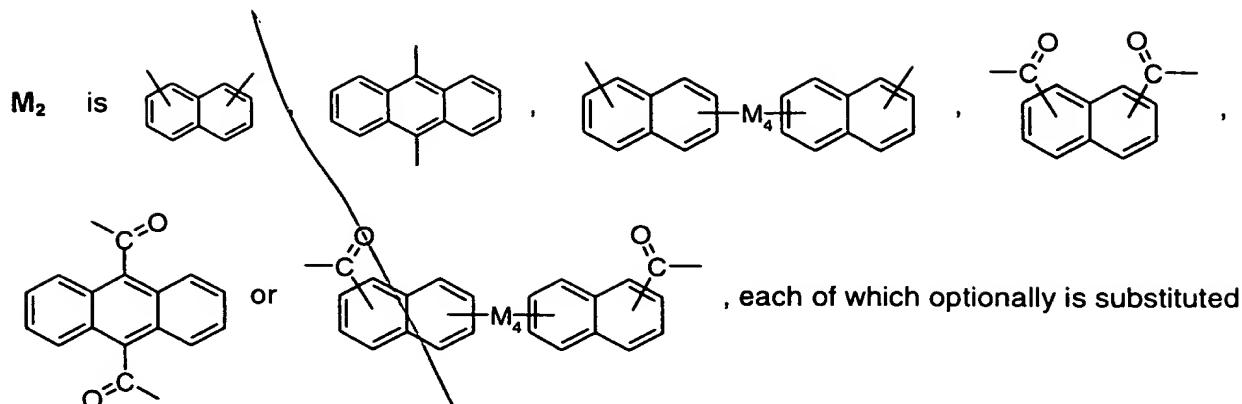
provided that M_1 is not 1,3-phenylene, 1,4-phenylene, 1-acetoxy-2-methoxy-4,6-phenylene or 1-methoxy-2-hydroxy-3,5-phenylene;

M_1 , when x is 3, is



, each of which optionally

is substituted 1 to 12 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 ; or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl; C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 ;



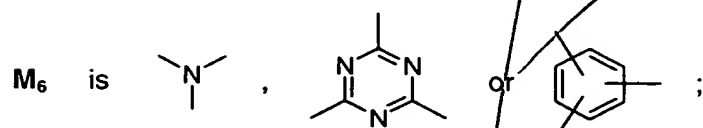
1 to 8 times by halogen, C_1 - C_{12} alkyl, C_3 - C_8 cycloalkyl; phenyl which is unsubstituted or substituted by one or more OR_3 , SR_4 or NR_5R_6 ; or each of which is substituted by benzyl, benzoyl, C_2 - C_{12} alkanoyl; C_2 - C_{12} alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR_3 , SR_4 , SOR_4 , SO_2R_4 or NR_5R_6 ;

M_3 is C_1 - C_{12} alkylene, cyclohexylene, phenylene, $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$, $-(CO)O-(CH_2CH_2O)_n-(CO)-$ or $-(CO)-(C_2-C_{12}alkylene)-(CO)-$;

n is 1-20;

M_4 is a direct bond, -O-, -S-, -SS-, $-NR_3-$, $-(CO)-$, C_1 - C_{12} alkylene, cyclohexylene, phenylene, naphthylene, C_2 - C_{12} alkylenedioxy, C_2 - C_{12} alkylenedisulfanyl, $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$, $-(CO)O-(CH_2CH_2O)_n-(CO)-$ or $-(CO)-(C_2-C_{12}alkylene)-(CO)-$; or M_4 is C_4 - C_{12} alkylene or C_4 - C_{12} alkylenedioxy, each of which is optionally interrupted by 1 to 5 -O-, -S- and/or $-NR_3-$;

M_5 is a direct bond, $-CH_2-$, -O-, -S-, -SS-, $-NR_3-$ or $-(CO)-$;



M_7 is -O-, -S-, -SS- or $-NR_3-$; or M_7 is $-O(CO)-(C_2-C_{12}alkylene)-(CO)O-$, $-NR_3(CO)-(C_2-C_{12}alkylene)-(CO)NR_3-$ or C_2 - C_{12} alkylenedioxy-, each of which optionally is interrupted by 1 to 5 -O-, -S- and/or $-NR_3-$;

R_3 is hydrogen or C_1 - C_{20} alkyl; or R_3 is C_2 - C_8 alkyl which is substituted by -OH, -SH, -CN, C_3 - C_6 alkenoxy, $-OCH_2CH_2CN$, $-OCH_2CH_2(CO)O(C_1-C_4alkyl)$, $-O(CO)-C_1-C_4alkyl$, $-O(CO)-phenyl$, $-(CO)OH$ or $-(CO)O(C_1-C_4alkyl)$; or R_3 is C_2 - C_{12} alkyl which is interrupted by one or more -O-; or R_3 is $-(CH_2CH_2O)_{n+1}H$, $-(CH_2CH_2O)_n(CO)-C_1-C_8alkyl$, C_1 - C_8 alkanoyl, C_3 -

C₁₂alkenyl, C₃-C₆alkenoyl, C₃-C₈cycloalkyl; or R₃ is benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, halogen, -OH or C₁-C₄alkoxy; or R₃ is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, -OH, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, or -(CO)R₇; or R₃ is phenyl-C₁-C₃alkyl, or Si(C₁-C₆alkyl)_r(phenyl)_{3-r};

r is 0, 1, 2 or 3;

R₃' is C₁-C₂₀alkyl; C₂-C₈alkyl which is substituted by -OH, -SH, -CN, C₃-C₆alkenoxy, -OCH₂CH₂CN, -OCH₂CH₂(CO)O(C₁-C₄alkyl), -O(CO)-C₁-C₄alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C₁-C₄alkyl); or R₃' is C₂-C₁₂alkyl which is interrupted by one or more -O-; or R₃' is -(CH₂CH₂O)_{n+1}H, -(CH₂CH₂O)_n(CO)-C₁-C₈alkyl, C₂-C₈alkanoyl, C₃-C₁₂alkenyl, C₃-C₆alkenoyl, C₃-C₈cycloalkyl; or R₃' is benzoyl which is unsubstituted or substituted by one or more C₁-C₆alkyl, halogen, -OH or C₁-C₄alkoxy; or R₃' is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, -OH, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, or -(CO)R₇; or R₃ is phenyl-C₁-C₃alkyl, or Si(C₁-C₆alkyl)_r(phenyl)_{3-r};

R₄ is hydrogen, C₁-C₂₀alkyl, C₃-C₁₂alkenyl, C₃-C₈cycloalkyl, phenyl-C₁-C₃alkyl; C₂-C₈alkyl which is substituted by -OH, -SH, -CN, C₃-C₆alkenoxy, -OCH₂CH₂CN, -OCH₂CH₂(CO)O(C₁-C₄alkyl), -O(CO)-C₁-C₄alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C₁-C₄alkyl); or R₄ is C₂-C₁₂alkyl which is interrupted by one or more -O- or -S-; or R₄ is -(CH₂CH₂O)_{n+1}H, -(CH₂CH₂O)_n(CO)-C₁-C₈alkyl, C₂-C₈alkanoyl, benzoyl, C₃-C₁₂alkenyl, C₃-C₆alkenoyl; or R₄ is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, phenyl-C₁-C₃alkyloxy, phenoxy, C₁-C₁₂alkylsulfanyl, phenylsulfanyl, -N(C₁-C₁₂alkyl)₂, diphenylamino, -(CO)R₇, -(CO)OR₇ or (CO)N(R₇)₂;

R₅ and R₆ independently of each other are hydrogen, C₁-C₂₀alkyl, C₂-C₄hydroxyalkyl, C₂-C₁₀alkoxyalkyl, C₃-C₅alkenyl, C₃-C₈cycloalkyl, phenyl-C₁-C₃alkyl, C₂-C₈alkanoyl, C₃-C₁₂alkenoyl, benzoyl; or R₅ and R₆ are phenyl or naphthyl each of which is unsubstituted or substituted by C₁-C₁₂alkyl, C₁-C₁₂alkoxy or -(CO)R₇; or R₅ and R₆ together are C₂-C₆alkylene optionally interrupted by -O- or -NR₃- and/or optionally substituted by hydroxyl, C₁-C₄alkoxy, C₂-C₄alkanoyloxy or benzoyloxy; and

R₇ is hydrogen, C₁-C₂₀alkyl; C₂-C₈alkyl which is substituted by halogen, phenyl, -OH, -SH, -CN, C₃-C₆alkenoxy, -OCH₂CH₂CN, -OCH₂CH₂(CO)O(C₁-C₄alkyl), -O(CO)-C₁-C₄alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C₁-C₄alkyl); or R₇ is C₂-C₁₂alkyl which is interrupted by one or more -O-; or R₇ is -(CH₂CH₂O)_{n+1}H, -(CH₂CH₂O)_n(CO)-C₁-C₈alkyl, C₃-C₁₂alkenyl, C₃-C₈cycloalkyl; or is phenyl optionally substituted by one or more halogen, -OH, C₁-C₁₂alkyl, C₁-C₁₂alkoxy, phenoxy, C₁-C₁₂alkylsulfanyl, phenylsulfanyl, -N(C₁-C₁₂alkyl)₂ or diphenylamino;

R_8 is C_1 - C_{12} alkyl optionally substituted by one or more halogen, phenyl, CN, -OH, -SH, C_1 - C_4 alkoxy, -(CO)OH or -(CO)O(C_1 - C_4 alkyl); or R_8 is C_3 - C_6 alkenyl; or phenyl optionally substituted by one or more C_1 - C_6 alkyl, halogen, CN, OR_3 , SR_4 or NR_5R_6 .

7. A photopolymerizable composition according to claim 6 comprising in addition to the photoinitiator (b) at least one further photoinitiator (c) and/or other additives (d).

8. A photopolymerizable composition according to claim 6, comprising 0.05 to 25 % by weight of the photoinitiator (b), or the photoinitiators (b) and (c), based on the composition.

9. A photopolymerizable composition according to claim 7 as further additive (d) comprising a photosensitizer.

10. A photopolymerizable composition according to claim 9, wherein the photosensitizer is a compound selected from the group consisting of benzophenone and its derivatives, thioxanthone and its derivatives, anthraquinone and its derivatives, or coumarin and its derivatives.

11. A photopolymerizable composition according to claim 6 additionally comprising a binder polymer (e).

12. A photopolymerizable composition according to claim 11, wherein the binder polymer (e) is a copolymer of methacrylate and methacrylic acid.

13. A process for the photopolymerization of compounds containing ethylenically unsaturated double bonds, which comprises irradiating a composition according to claim 6 with electromagnetic radiation in the range from 150 to 600 nm, or with electron beam or with X-rays.

14. A process according to claim 13 for producing pigmented and non-pigmented paints and varnishes, powder coatings, printing inks, printing plates, adhesives, dental compositions, photoresists for electronics like electroplating resist, etch resist, both liquid and dry films, solder resist, as resists to manufacture color filters for a variety of display applications or to generate structures in the manufacturing processes of plasma-display panels, electroluminescence displays and LCD, composite compositions, resists, including photoresists, color

filter materials, compositions for encapsulating electrical and electronic components, for producing magnetic recording materials, micromechanical parts, waveguides, optical switches, plating masks, etch masks, colour proofing systems, glass fibre cable coatings, screen printing stencils, for producing three-dimensional objects by means of microlithography, plating, stereolithography, for producing image recording materials, for producing holographic recordings, microelectronic circuits, decolorizing materials for image recording materials using microcapsules.

15. Coated substrate which is coated on at least one surface with a composition according to claim 6.

16. Process for the photographic production of relief images, in which a coated substrate according to claim 15 is subjected to imagewise exposure and then the unexposed portions are removed with a developer.

17. A color filter prepared by providing red, green and blue picture elements and a black matrix, all comprising a photosensitive resin and a pigment on a transparent substrate and providing a transparent electrode either on the surface of the substrate or on the surface of the color filter layer, wherein said photosensitive resin comprises a polyfunctional acrylate monomer, an organic polymer binder and a photopolymerization initiator of formula I, II, III, IV or V according to claim 1.